

REMARKS

Claims 1-2 and 10-15 are pending and are amended solely to address the rejection under 35 U.S.C. § 101.

Entry of Rule 116 Response

Entry of this response is requested because this response does not raise any new issues that would require further consideration and/or search. No new claims are being presented in this response. No new matter is raised by this response. This response could not have been previously presented because the outstanding § 101 and § 102(b) rejections are based, in part, on new reasoning set forth in the outstanding Office Action. Lastly, it is requested that the response be entered even if the application is not allowed because this response will place the application in better form for appeal by materially simplifying the issues.

If the application is not in proper form for allowance, Applicant requests that the Examiner telephone the undersigned to discuss any further outstanding issues.

Request for Interview Prior to Formal Action on Amendment

Applicant requests an interview prior to formal action on this response. An “Applicant Initiated Interview Request Form” accompanies this response. Please contact Applicant’s undersigned representative to schedule the interview.

Prior Art Rejection

Claims 1, 2 and 10-15 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Chalmers et al. (hereafter, “Chalmers”). Applicant respectfully traverses this rejection as it pertains to the amended claims.

1. Patentability of claims 1 and 12 over Chalmers

Amended claims 1 and 12 read as follows:

1. An article of manufacture for use in a proofing process comprising a sheet of paper that includes:

(a) a blank region for subsequent printing of a content image portion; and

(b) a marginal region outside of the blank region, the marginal region including one or more standard color bars pre-printed thereon, and each of the one or more standard color bars having a plurality of color blocks, each color block reflecting a wavelength in the electromagnetic spectrum that represents a color selected from a color space, wherein the blank region and the marginal region constitute the entire surface area of one side of the sheet of paper.

12. An article of manufacture for use in a proofing process comprising a sheet of paper that includes:

(a) a marginal region including one or more standard color bars pre-printed thereon, and each of the one or more standard color bars having a plurality of color blocks, each color block reflecting a wavelength in the electromagnetic spectrum that represents a color selected from a color space; and

(b) a blank region outside of the marginal region for subsequent printing of a content image portion, wherein the marginal region and the blank region constitute the entire surface area of one side of the sheet of paper.

In the outstanding rejection, the Examiner provides a new rationale for supporting the rejection, as follows:

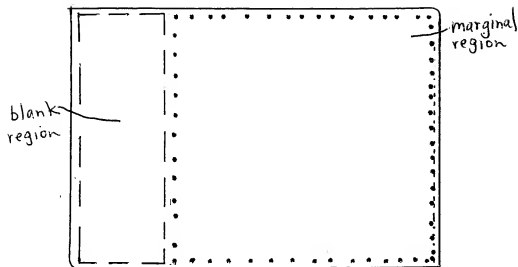
Claim feature	Examiner's rationale
blank region for subsequent printing of a content image portion	region where the "lady images" 2 in Fig. 1 and 2A in Fig. 2 <u>will</u> be printed for subsequent printing of image portion 2A of Fig. 2 (underlining added for emphasis) On page 5 of the Office Action, the Examiner also labeled the alleged "blank region" with dashed lines.
marginal region	region outside of the blank region On page 5 of the Office Action, the Examiner also labeled the alleged "marginal region" with dotted lines.

This rationale is clearly erroneous for at least the following reasons:

1. The region that the Examiner labeled as being the "blank region" is not actually blank. In Fig. 1 and 2A, this region contains various illustrations of color prints (see column 2, lines 9-10 of Chalmers). Applicant is claiming a blank region using the ordinary dictionary definition of "blank," namely, "devoid of writing, images, or marks"¹ Furthermore, this ordinary dictionary definition is consistent with Applicant's disclosure which clearly shows a blank region in Fig. 2A that ultimately gets printed with a content image portion (sample proof) as shown in Fig. 2B. Stated simply, the claimed "blank region" must be met by a region devoid of writing, images or marks. The region labeled by the Examiner as being the blank region does not meet this definition.

The Examiner's rationale also states that this is a region where the lady images 2 and 2A will be printed. While the lady image 2A "will" be printed in a blank portion of the area labeled by the Examiner as being a blank region, the lady image 2 is already printed in this blank region. The test sheet in Chalmers only has three states, as follows:

¹ blank. Dictionary.com. The American Heritage® Dictionary of the English Language, Fourth Edition. Houghton Mifflin Company, 2004. <http://dictionary.reference.com/browse/blank> (accessed: September 12, 2008).



In state 1, the test sheet in Chalmers is completely blank. In state 2, the test sheet in Chalmers is printed with all of the elements shown in Fig. 1. In state 3, the test sheet in Chalmers is printed with all of the elements shown in Fig. 3. The test paper does not have state where at the same time, the blank region as labeled by the Examiner is truly blank and the marginal region as labeled by the Examiner contains color bars. In contrast to Chalmers, claims 1 and 12 explicitly recite a sheet of paper having the novel combination of (1) a blank region, and (2) a marginal region...having one or more color bars pre-printed thereon,...wherein the blank region and the marginal region constitute the entire surface area of one side of the sheet of paper.

The Examiner presumably highlights column 2, lines 9-10² of Chalmers for supporting the argument that the blank region is located where the lady images 2 in Fig. 1 and 2A in Fig. 2 will be printed. All that this text portion means is that the lady image 2 in Fig. 1 will be printed where shown when a blank sheet of paper (state 1 above) becomes a test sheet (state 2 above). There is no disclosure or suggestion in Chalmers that the test sheet has a state wherein the region labeled by the Examiner as being the marginal region is printed with color bars, but the region labeled by the Examiner as being the blank region has no printed images.

At best, the test sheet in Chalmers has a first region (not a blank region) having a blank area (i.e., the area where the lady image 2A will be printed) and a second region (not a marginal region as discussed below) having one or more color bars pre-printed thereon, wherein the first region and the second region constitute the entire surface area of one side of the sheet of paper. However, this is not Applicant's claimed invention, and such a test sheet would be totally unsuitable for the purpose of the claimed sheet of paper, namely, for assisting in the proofing process. Applicant's sheets of papers are meant to be sold with a blank region that subsequently gets printed with the content image portion.

2. The region that the Examiner labeled as being the "marginal region" is not actually a marginal region. Applicant is claiming a marginal region using the ordinary dictionary definition of "marginal," namely, "of, relating to, located at, or constituting a margin, a border, or an

² The Office Action refers to "col. 9-10" of Chalmers, but it is presumed that this is meant to reference column 2, lines 9-10 of Chalmers.

edge”³ Furthermore, this ordinary dictionary definition is consistent with Applicant’s disclosure which clearly shows a marginal region in Figs. 2A and 2B that is located at a margin or edge of the proofing paper. Stated simply, the claimed “marginal region” must be met by a region that is related to, located at, or constitutes a margin, a border, or an edge. The region labeled by the Examiner as being the marginal region does not meet this definition.

3. On page 3 of the Office Action, the Examiner states that the teaching and purpose in Chalmers is the same as that of the instant invention because both inventions allows a user to compare pre-printed color blocks with subsequently printed adjacent color blocks in order to ensure that the color quality is acceptably matched. Applicant traverses this statement, as well as any relevance that it may have.

First, Chalmers performs this comparison for purposes of adjusting a printing engine, whereas Applicant performs this comparison for purposes of determining if an acceptable proof has been produced. These are completely different purposes.

Second, the present set of claims is directed to an article of manufacturing comprising a sheet of paper. The proper comparison for purposes of applying prior art is to compare the features of the claimed article of manufacturing comprising a sheet of paper with the features of the test paper in Chalmers, not how the two inventions are used.

For at least these reasons, claims 1 and 12 are believed to be patentable over Chalmers.

2. Patentability of dependent claims 10 and 14 over Chalmers

Claims 10 and 14 are further believed to be patentable over Chalmers because the region of the test sheet in Chalmers that the Examiner labeled as being equivalent to the claimed “marginal region” is not a minor region of the test sheet, and the region of the test sheet in Chalmers that the Examiner labeled as being equivalent to the “blank region” is not a major region of the test sheet in Chalmers. In fact, the regions in Chalmers are exactly the opposite of

³ marginal. Dictionary.com. The American Heritage® Dictionary of the English Language, Fourth Edition. Houghton Mifflin Company, 2004. <http://dictionary.reference.com/browse/marginal> (accessed: September 12, 2008).

the claimed configuration. The region labeled as the “blank region” is actually the minor region of the test sheet, and the region labeled as the “marginal region” is actually the major region of the test sheet.

Applicant is claiming a “major region” and a “minor region” using the ordinary dictionary definition of the words “major” and “minor”, namely, “major” being “great in number, size, or extent⁴,” and “minor” being “lesser or smaller in amount, extent, or size.”⁵ Furthermore, these ordinary dictionary definitions are consistent with Figs. 2A and 3A of Applicant’s disclosure which clearly shows the respectively claimed regions as being major and minor regions of the proofing paper. Stated simply, the claimed “blank region” must be met by a region that is great in number, size, or extent, and the claimed “marginal region” must be met by a region that is lesser or smaller in amount, extent, or size. The regions labeled by the Examiner as being the blank region and marginal region do not meet these definitions, and in fact, are opposite of such definitions.

Notwithstanding this fact, the Examiner provides the following rationale for supporting the rejection over Chalmers on page 6 of the Office Action (underlining added for emphasis):

The examiner asserts that the cited prior art standardization paper of figure 1 (Chalmers et al) comprising the two regions (blank and marginal) is the same structure claimed by applicant and the sole difference is in the area of placement of the printed material. Thus, there is no novel and unobvious functional relationship between the printed matter (e.g., color bars) and the substrate (e.g., sheet of paper) which is required for patentability.

Accordingly, there being no functional relationship of the printed material to the substrate, as noted above, there is no reason to give patentable weight to the content of the printed matter, which, by itself, is non-statutory subject matter. Further, it is the user judgment to consider the blank region as being a major region of importance and the marginal region as being a minor region of importance.

⁴ major. Dictionary.com. The American Heritage® Dictionary of the English Language, Fourth Edition. Houghton Mifflin Company, 2004. <http://dictionary.reference.com/browse/major> (accessed: September 12, 2008).

⁵ minor. Dictionary.com. The American Heritage® Dictionary of the English Language, Fourth Edition. Houghton Mifflin Company, 2004. <http://dictionary.reference.com/browse/minor> (accessed: September 12, 2008).

Applicant respectfully traverses this reasoning. First, it is an important structural feature of the sheet of paper that the marginal region be a minor region of the sheet of paper and that the blank region be a major region of the sheet of paper. The blank region is used for subsequent printing of the content image portion, such as a proof as shown in Fig. 2B. To effectively review a proof, the image to be proofed should be as large as possible on the proofing paper. That is, it should cover a major region of the proofing paper. In contrast, the color bars need not be large in size to effectively perform their function so they need only cover a minor region of the proofing paper.

Second, even if the Examiner believes that the color bars are “printed matter,” it is improper to ignore such limitations. “Differences between an invention and the prior art cited against it cannot be ignored merely because those differences reside in the content of the printed matter.” *In re Gulack*, 703 F. 2d 1381, 1385 (Fed. Cir. 1983). “The Patent and Trademark Office (PTO) must consider all claim limitations when determining patentability of an invention over the prior art...The PTO may not disregard claim limitations comprised of printed matter.” *In re Lowry*, 32 F.3d 1579, 1582 (Fed. Cir. 1994), citing *Gulack*.

Third, as argued below in the response to the §101 rejection, the requisite functional relationship of the printed material to the substrate clearly exists in the present invention, and thus the alleged lack of such a relationship cannot be used to ignore a clearly recited structural feature. See the discussion of *In re Miller* in the paragraph numbered 5b.

3. Patentability of dependent claims 11 and 15 over Chalmers

Claims 11 and 15 are further believed to be patentable over Chalmers because the test sheet in Chalmers is not proofing paper. The process described in Chalmers was summarized in the Petition to Make Special filed in the parent Application No. 10/192,404. The discussion is repeated below for convenience.

U.S. Patent No. 5,953,990 (Chalmers et al.) discloses a process for calibrating color printing in a printing engine. The process uses a master sheet and a test sheet. The master sheet has a first array of desired colors thereon. The test sheet has a second array of the desired colors thereon. The second array is offset from the first array so that when the first and second arrays are aligned, each of the desired colors of the first array is immediately adjacent to the same desired color of the second array. A printing engine prints an image of the master sheet on the test

sheet. Then, the colors of the printed image of the master sheet's first array that appear on the test sheet are compared with the corresponding desired colors of the test sheet's second array that are immediately adjacent thereto. The printing engine is then adjusted based on the comparison. This process does not perform the combination of steps underlined above.

There is no use of a proof in Chalmers. The process in Chalmers is used to adjust a printing engine, not to determine if a proof is made that meets industry standards. Since there is no proof used or created in Chalmers, neither the master sheet nor the test sheet (with or without the master sheet image printed thereon) are proofing paper. Thus, no "proofing paper" is provided in Chalmers, as required by the present claims.

Stated simply, Fig. 1 of Chalmers merely shows a reference image that is to be printed as part of the calibration process. The reference image in Fig. 1 includes both color bars 1 and color pictures 2. Fig. 1 is not a sheet of proofing paper.

Notwithstanding these arguments, the Examiner provides the following rationale for supporting the rejection over Chalmers on page 6 of the Office Action (underlining added for emphasis):

Chalmers et al disclose a sheet of paper of claim 1 wherein the sheet of paper is proofing paper (Examiner reads proofing paper as Chalmers paper used for visual inspection. A proof is known in the art to be a version of a document or color illustration produced specifically for the purpose of review prior to reproduction. A proof is also known in the art as a test sheet made to reveal errors or flaws, predict results on press and record how a printing job is intended to appear when finished. Chalmers et al. satisfy the claim.)

Applicant respectfully traverses this reasoning. The definitions given by the Examiner of a proof completely refute the argument that the test sheet in Chalmers is proofing paper. Regarding the first statement, "A proof is known in the art to be a version of a document or color illustration produced specifically for the purpose of review prior to reproduction," the test sheet in Chalmers is used for making adjustments to a printing engine that will subsequently produce documents other than the test sheet. The test sheet itself is not being reproduced. Nobody in the printing arts would reasonably consider a test sheet for adjusting a printing engine like the one shown in

Chalmers to be proofing paper because no proof is even generated in the Chalmers process. At best, Chalmers can be described as a process that occurs before a proof is generated using the printing engine after it has been adjusted. Regarding the second statement, “A proof is also known in the art as a test sheet made to reveal errors or flaws, predict results on press and record how a printing job is intended to appear when finished,” no printing job related to the test sheet is finished in Chalmers. That is, the lady image 2 appears only in the test sheet, not in any subsequently run printing job.

4. Patentability of dependent claims 2 and 13 over Chalmers

These dependent claims are believed to be patentable over Chalmers for at least the reason that they are dependent upon allowable base claims and because they recite additional patentable elements and steps.

35 U.S.C. § 101 rejection

In the outstanding rejection, the Examiner reinstated the previously withdrawn § 101 rejection and provides a revised rationale for the rejection. Applicant respectfully traverses this rejection as it relates to the amended claims for at least the following reasons:

1. The amended claims now recite an article of manufacture for use in a proofing process which is one of the statutory categories of subject matter encompassed under 35 U.S.C. § 101.⁶
2. The printed matter doctrine is a judicially-created doctrine that the USPTO has used to deny patentability to inventions directed to printed lines, characters, words, and digits that are contained on a medium and readable by humans. The presently claimed invention does not have any of these properties. While the claimed color bars are printed on the sheet of paper, they are

⁶ 35 U.S.C. 101 Inventions patentable.

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

not “printed matter” in that they are not meant to be read like one would read words, numbers or symbols to extract a meaning.

3. Each of the one or more claimed standard color bars have “a plurality of color blocks, each color block reflecting a wavelength in the electromagnetic spectrum that represents a color selected from a color space.” Applicant has thus clearly claimed structural features of the article of manufacture.

4. The claimed color bars are no different in nature than visual targets on an eye test chart apparatus. See, for example, U.S. Patent No. 7,357,508 (Suzuki), which claims an eye test chart apparatus comprising visual targets. The front page and claim 1 of Suzuki is attached hereto as an Exhibit. Suzuki was rejected under 35 U.S.C. § 101 but was subsequently allowed after the claims were amended to recite an eye chart apparatus which was argued to be one of the statutory categories of subject matter encompassed under 35 U.S.C. § 101. Here, Applicant believes that an “article of manufacture” better characterizes the appropriate statutory category.

5. The Examiner asked Applicant to review MPEP 706.03(a) which reads as follows:

MPEP 706.03(a)

A. Printed Matter

For example, a mere arrangement of printed matter, though seemingly a “manufacture,” is rejected as not being within the statutory classes. See *In re Miller*, 418 F.2d 1392, 164 USPQ 46 (CCPA 1969); *Ex parte Gwinn*, 112 USPQ 439 (Bd. App. 1955); and *In re Jones*, 373 F.2d 1007, 153 USPQ 77 (CCPA 1967). (underlining in the Examiner’s Office Action)

Applicant traverses the relevance of this MPEP excerpt because the claimed invention is not a mere arrangement of printed matter and none of the cited case law supports such a conclusion. It is Applicant’s understanding that the MPEP case law is the USPTO’s attempt to define the types

of issues that arise in “printed matter” rejections and to indicate the types of inventions that are and are not non-statutory under § 101.⁷

a. **In re Jones:** Applicant’s claimed color bars are “structure” analogous to the pattern areas in *Jones*. *Jones* provides the following instructions on how to distinguish between non-statutory printed matter and printing on a surface (underlining added for emphasis):

That claim, and the others likewise, do not, in our opinion, define “printed matter” in the sense in which that term has heretofore been used to indicate various sorts of indicia whose primary purpose is the conveying of intelligence to a reader. What we find on the disk we would not characterize as indicia or printing but as structure, albeit the “pattern areas” of claim 1 are not necessarily transparent and opaque, respectively, and might be produced by some sort of printing technique. *In re Jones*, 153 USPQ 77 at 80-81 (underlining added for emphasis)

Certainly there is no “printing” in this case in the form of words or other symbols intended to convey intelligence to a reader nor in the form of rulings as on a business form. *Jones* at 81 (underlining added for emphasis)

Like *Jones*, Applicant’s claimed color bars do not convey intelligence to a reader in the form of words or other symbols nor in the form of rulings as on a business form. Also, like *Jones*, Applicant’s claimed color bars are structure, even though they might be produced by some sort of printing technique.

b. **In re Miller:** As stated in *In re Miller*, new and unobvious functional relationships define patentable subject matter:

Here there is a new and unobvious functional relationship between a measuring *receptacle*, volumetric *indicia* thereon indicating volume in a certain ratio to actual volume, and a *legend* indicating the ratio, and in our judgment the appealed claims properly define this relationship. *In re Miller*, 164 USPQ 46 at 49 (underlining added for emphasis)

⁷ Two of the three cited cases resulted in a reversal of the § 101 rejection. However, all of the cases analyze key issues for deciding whether presented claims are statutory.

Applicant's claimed color bars define a new and unobvious functional relationship between color bars pre-printed on one region of proofing paper in relation to another region of the proofing paper. For the claimed article of manufacture to serve the function of being used in a proofing process, the claimed color bars must be located in the specified region of the sheet of paper. Applicant is not claiming any article of manufacture having color bars thereon.

There are no principles in *Miller* that can support the § 101 rejection. In fact, no § 101 rejection was even given in *Miller*.

c. Ex parte Gwinn:

Gwinn claimed a set of dice for use in a "parlor golf game." Each die represented a type of stroke (tee, fairway, putt) and had suitable marked faces for the number of strokes to be determined in accordance with the rules of the game. The claims were found to be unpatentable over prior art dice. However, *Gwinn* is clearly distinguishable from the presently claimed invention because in *Gwinn*, the dots on the dice are "symbols intended to convey intelligence" (see quotation from *In re Jones* above), whereas Applicant's claimed color bars are "structure" analogous to the pattern areas in *Jones*. While the claimed color bars are printed on the sheet of paper, they are not "printed matter" in that they are not meant to be read like one would read the face of a die to extract a meaning (here, the number of strokes).

There are no principles in *Gwinn* that can support the § 101 rejection.

While the Examiner has highlighted MPEP 706.03(a), there is simply nothing in this section or any of its cited cases to support a § 101 rejection of the pending claims. Stated simply, none of the cited cases present any fact pattern or holding that is applicable to Applicant's claimed invention or that supports a conclusion that the claims recite a "a mere arrangement of printed matter."

6. In the outstanding Office Action, the Examiner provides a revised rationale for the § 101 rejection that is based on two main arguments. The first argument is as follows:

Claims 1 and 12 are directed to a sheet of paper with printed color data which are per se not statutory. Data that is pre-printed in certain regions of a page is merely text or image data on a substrate, and the combination does not impart functionality. The printed matter (color bar) in no way depends on the paper, and the paper does not depend on the printed matter.

This argument is clearly erroneous. A substrate having data printed thereon is not, per se, non-statutory. The case law above clearly shows that it depends upon what type of data is printed on the substrate. A substrate having data such as printed lines, characters, words, and digits would likely be non-statutory based on prior case law. However, substrates having data such as pattern areas or other types of printing that do not convey intelligence to a reader in the form of words or other symbols is likely to be statutory based on prior case law. Applicant's claims clearly fall into the latter category and are thus statutory.

The Examiner's second argument cites *In re Gulack* for a holding that when the claimed printed matter is not functionally related to the substrate it will not distinguish the invention from the prior art in terms of patentability and reasons that Chalmers discloses the claimed invention, "except for the specific arrangement...and/or content of indicia (printed matter) set forth in the claims." The Examiner then concludes that since there is no novel and unobvious functional relationship between the printed matter (e.g., color bars) and the substrate (e.g., sheet of paper) which is required for patentability, then no patentable weight needs to be given to the content of the printed matter.

Applicant's claimed color bars define a new and unobvious functional relationship between color bars pre-printed on one region of proofing paper in relation to another region of the proofing paper. For the claimed article of manufacture to serve the function of being used in a proofing process, the claimed color bars must be located in the specified region of the sheet of paper. Applicant is not merely claiming any article of manufacture having color bars thereon. The prior art applied against the claims, namely, the test sheet in Chalmers, cannot serve the function of being used in a proofing process, because its color bars are not in a marginal region and because it has no blank region as defined in the claims.

Since there is a novel and unobvious functional relationship between the printed matter (color bars) and the substrate (sheet of paper) which is required for patentability, then the

Examiner must give patentable weight to the content of the printed matter (color bars). As discussed above in the "Prior Art Rejection" section, when patentable weight is given to the color bars, Chalmers fails to disclose or suggest the claimed invention. In fact, the Examiner even admits that Chalmers does not disclose the claimed invention. See page 3 of the Office Action that states "Chalmers et al. disclose the claimed invention except for the specific arrangement...and/or content of indicia (printed matter) set forth in the claims."

In sum, the Examiner's revised rationale for the § 101 rejection is clearly erroneous, and thus withdrawal of § 101 rejection is respectfully requested.

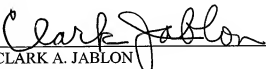
Conclusion

Insofar as the Examiner's rejections were fully addressed, the instant application is in condition for allowance. Withdrawal of the Final Rejection and issuance of a Notice of Allowability of all pending claims is therefore earnestly solicited.

Respectfully submitted,

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(Date)


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EXHIBIT
(attachment to Amendment After Final
for Application No. 10/822,617)

(12) **United States Patent**
Suzuki

(10) **Patent No.:** **US 7,357,508 B2**
(45) **Date of Patent:** **Apr. 15, 2008**

(54) **EYE TEST CHART APPARATUS**

6,379,007 B1 * 4/2002 Farb 351/239

(76) Inventor: **Taketoshi Suzuki, 16, Kichikouji,
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(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 692 days.

(21) Appl. No.: **10/487,784**

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§ 371 (c)(1),
(2), (4) Date: **Feb. 26, 2004**

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A61B 3/02 (2006.01)

(52) U.S. CL **351/239**

(58) Field of Classification Search **351/237,
351/238, 239, 240, 242, 243; 345/22, 23,
345/25, 156**

See application file for complete search history.

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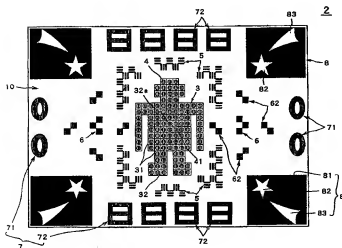
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(57) **ABSTRACT**

An eye test chart includes a visual target for multiple test purposes composed of patterns of combinations of at least two or more kinds of colors and predetermined shapes that are arranged at predetermined positions on an image area corresponding to visual field regions to be examined. Color vision defects and their abnormal regions can be identified as a result of a subject's visual identification of the visual targets arranged at the predetermined positions.

16 Claims, 7 Drawing Sheets



The invention claimed is:

1. An eye test chart apparatus comprising visual targets for multiple test purposes and a fixed target centrally positioned relative to the positions of said visual targets, wherein said visual targets are composed of patterns of combinations of at least two or more kinds of colors and predetermined shapes, and are arranged at predetermined positions on an image area corresponding to visual field regions to be examined, and wherein said fixed target is visually distinguishable from said visual targets, whereby color vision defects and their abnormal regions can be identified as a result of subject's visual identification of the visual targets arranged at the predetermined positions.